

Currently no design or construction funding is identified for any of these I-5 improvements. WSDOT does have the funding, however, to begin the environmental NEPA process on the alternatives moving forward and to solicit public input. WSDOT does not have funds to finish the NEPA Environmental Assessment or the Corridor Interchange Justification Report, both of which must be completed before final design or construction can proceed.

Consequences of Doing Nothing

The consequences of making no substantial improvements to I-5 through JBLM are real and predictable. Population projections into 2040 indicate that the population in Pierce County will grow by 38%, and in Thurston County by 42%, translating into a significant increase in demand for transportation facilities.

The graph at right illustrates the effects of this growth on I-5 traffic traveling between Mounts Road and Bridgeport Way. The “free flow” condition, meaning traffic is moving at the posted speed limit, is the baseline. At free-flow conditions, a motorist could travel through that nine-mile area in about 10 minutes.

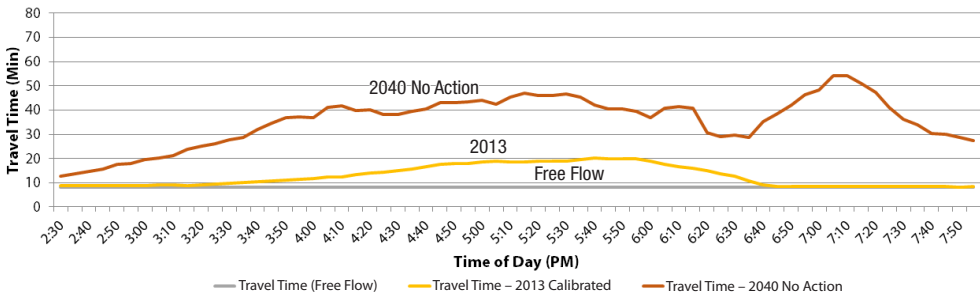
The graph shows that in 2013, high traffic volumes had already slowed traffic down for the three hours between 3:30 p.m. and 6:30 p.m. The “No Action” graph shows that with no improvements made to I-5, in 2040 traffic is moving much more slowly through the area and congestion is lasting much longer than it does today.

DEMOGRAPHICS AND TRANSPORTATION

	2010	2040	Difference
Pierce County population	795,225	1,042,341	31%
Pierce County employment	319,204	503,680	57%
Thurston County population	252,266	358,031	42%
I-5 vehicle demand (PM Peak 1 hr) <sup>1</sup>	8,910	11,105	25%
Transit ridership (PM Peak 1 hr) <sup>1</sup>	170	240	41%

<sup>1</sup> Between Steilacoom-DuPont and Main Gate interchanges

I-5 CORRIDOR TRAVEL TIME – NORTHBOUND



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I-5: Moving through Joint Base Lewis-McChord

KEY TAKEAWAYS

- Steady population and economic growth since the 1980s have led to daily I-5 traffic congestion through JBLM. Since 2010, WSDOT has worked closely with local cities, transportation agencies and JBLM to identify solutions.
- Recently WSDOT built a new auxiliary lane between Berkeley Street and Thorne Lane and installed “smart highway” devices such as new traffic cameras, ramp meters, variable-message and travel-time signs.
- A study is under way to identify more substantial, long-term improvements to I-5. This folio summarizes study findings to date and next steps.
- 2040 population-growth projections show that if no capacity improvements are made to I-5, motorists will experience daily congestion lasting many hours instead of just during commute hours.

Improving transportation through a vital corridor

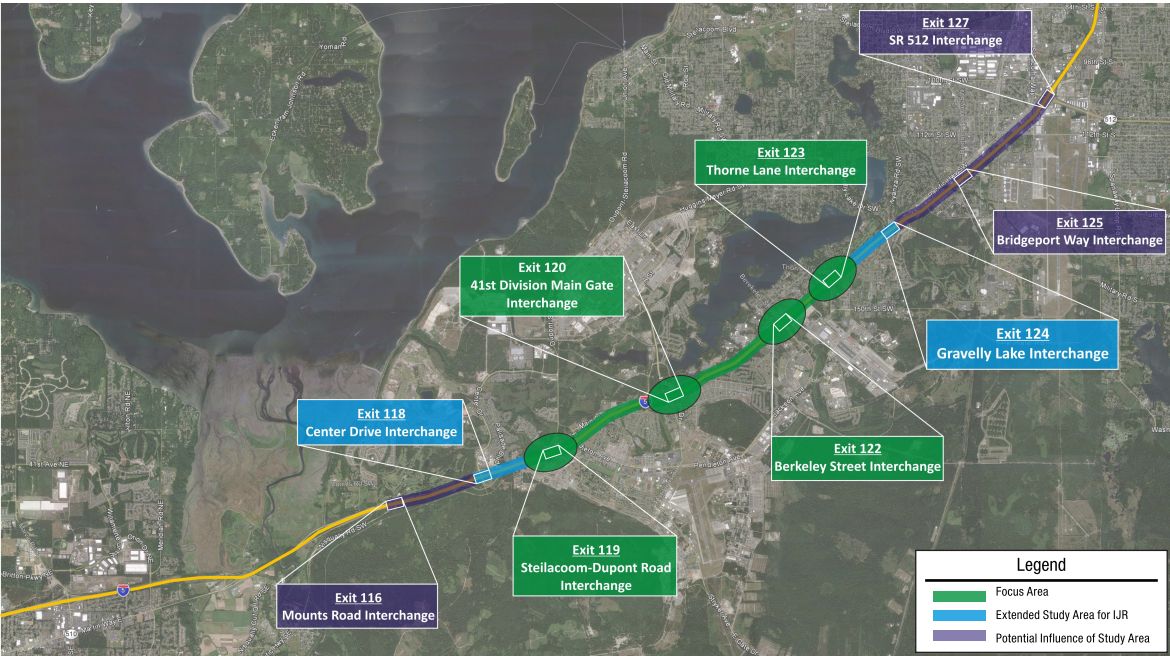
Interstate 5 is the primary west coast transportation route from Canada to Mexico. It is the only continuous north/south route in Washington between Vancouver and Blaine.

Over the past decade, I-5 traffic growth in the south Puget Sound has reached the point where highway demand during peak commute hours exceeds capacity. Drivers now experience daily heavy peak-hour congestion, especially through the constrained area along Joint Base Lewis-McChord (JBLM) in south Pierce County. This section of highway was built in the late 1950s and widened to six lanes in the 1970s. No significant capacity improvements have occurred since then.

In 2013 WSDOT began evaluating options for

highway and interchange improvements between Steilacoom-DuPont Road and Thorne Lane. Those four interchanges, shown in green below, are the subject of traffic and environmental analyses, conceptual modifications and traffic modeling scenarios. WSDOT has conducted a Corridor Feasibility Study and a multi-modal Alternatives Analysis, and is

now working on environmental studies and a Corridor Interchange Justification Report. This body of work will become the roadmap WSDOT uses for long-range planning and construction. The reports will also address how changes could affect traffic patterns on the adjacent interchanges, highlighted in blue and purple.



I-5 through JBLM is the focus of a WSDOT study identifying long-term improvements to the highway and the four interchanges between Steilacoom-DuPont Road and Thorne Lane.

Project goals

1. MAXIMIZE USE OF EXISTING FACILITIES and strategically add new improvements or Transportation Demand Management strategies to enhance efficiency while reducing the impact of “local” traffic on the freeway.
2. ACHIEVE MEASURABLE IMPROVEMENT OVER BASELINE operations for transportation reliability, person throughput and freight movement in 2020 (opening year) and 2040. Baseline for the 2020 evaluation will be 2014. Baseline for the 2040 evaluation will be the 2040 no action condition.
3. IMPROVE ATTRACTIVENESS OF HOV TRAVEL through the corridor (including vanpools, carpools, transit and other high occupancy vehicle modes).
4. MAXIMIZE STEWARDSHIP OF LIMITED PUBLIC RESOURCES by identifying solutions that reduce travel demand in peak periods and/or relieve congestion, can be constructed in phases, and are cost effective.
5. AVOID OR MINIMIZE ENVIRONMENTAL IMPACTS.

Alternatives Analysis Process

Two years ago, using Least Cost Planning principles, WSDOT formed a stakeholder committee composed of technical experts and policy makers from local cities, transportation organizations, tribes, JBLM and the Federal Highway Administration. Their purpose was to provide WSDOT technical expertise, guidance, support and ideas during the study process. Their input, combined with input received at a public open house, led to 181 options to be considered for improving mobility along this corridor.

Stakeholders

- Cities of DuPont, Lakewood, Steilacoom, Yelm and Lacey
- Intercity Transit, Pierce Transit, Sound Transit
- Pierce County
- Puget Sound Regional Council, Thurston Regional Planning Council
- Nisqually Indian Tribe
- Federal Highway Administration
- Joint Base Lewis McChord
- Washington National Guard
- Washington State Department of Transportation

The next step was to create criteria to rate and prioritize the array of options presented to the team. The criteria the project team and stakeholders agreed upon were both qualitative and quantitative in nature and included traffic performance, environmental considerations and factors such as ability to stage construction, construction costs and need for additional right of way.

Narrowing the Results

Through many work sessions, the 181 ideas were narrowed down to the 13 most promising alternative packages. Those 13 alternative packages were made up of transit and vanpool strategies, local road improvements, I-5 express lanes, HOV lanes and I-5 general-purpose lanes. Reconfiguration of interchanges was also included in the alternative packages. Each alternative was scored separately and in comparison to each other, using a quantitative matrix.

Quantitative Criteria

Quantitative criteria included measuring each idea’s effects on traffic speeds, hours of congestion, travel times through the corridor, person throughput (how many people would the new facility move), person demand (how many people would be served during a two-hour commute period), and potential transit/HOV trips.

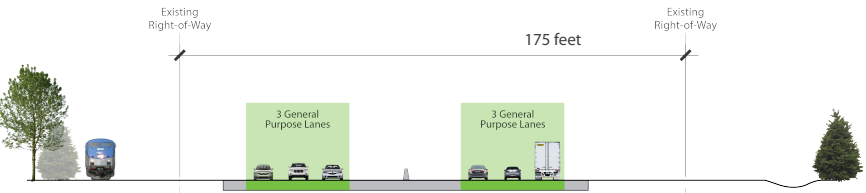
Qualitative Criteria

Qualitative criteria included scoring each idea’s effects on the environment (including wetlands, endangered species, surface water and groundwater, cultural and historic resources, hazardous materials), and the complexity of building the facility from the perspective of property needs, construction phasing and staging, and costs.

PHASED IMPLEMENTATION APPROACH

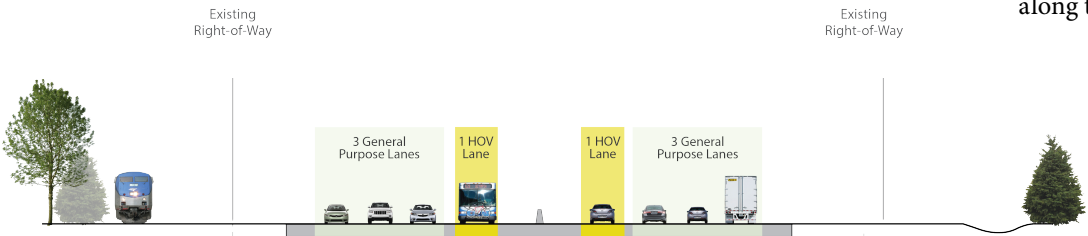
Existing

- ♦ 3 General Purpose (GP) Lanes each direction



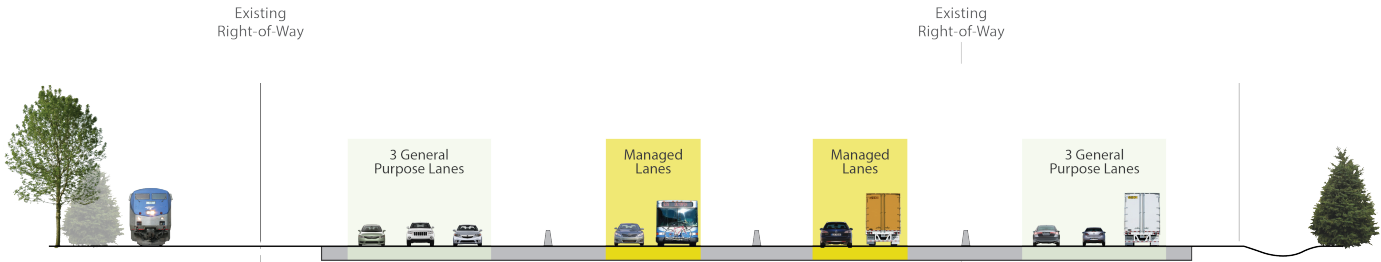
INITIAL PHASE 2020

- ♦ Rebuild Thorne Lane interchange
- ♦ Rebuild Berkeley St. interchange
- ♦ Gravelly to Thorne Connector
- ♦ Add one HOV lane to each direction of I-5 from Thorne Lane to Steilacoom-DuPont Rd.
- ♦ Rebuild Steilacoom-DuPont interchange
- ♦ Rebuild DuPont Access Control Point to JBLM
- ♦ Bike/pedestrian path along I-5 corridor



FUTURE PHASE 2040

- ♦ 3 general-purpose and 2 managed lanes
- ♦ Main Gate interchange revisions
- ♦ Possible revisions to Gravelly Lake Drive interchange
- ♦ Possible revisions to Center Drive interchange



Alternatives Advancing to NEPA

The end results of extensive analysis, modeling and deliberation were the following alternatives that the stakeholder group and WSDOT agreed would move forward into an Environmental Assessment process. The alternatives are a two-phased approach to highway improvements, with some improvements possible by 2020 (assuming funding), and other improvements being built further in the future when traffic demand and mobility along the corridor warrant them.

Corridor Preservation

WSDOT is working closely with JBLM to identify potential long-term easement needs for the I-5 corridor.

Cost Estimates

Cost estimates for the above options vary depending on the extent of improvements. WSDOT estimates that \$250 to \$450 million\* could construct some or all of the following investments being refined through the EIS process:

- add one lane (HOV or managed) in each direction of I-5 between the Thorne Lane interchange and the Steilacoom-DuPont interchange to increase highway capacity;
- replace the I-5 interchanges at Thorne Lane, Berkeley Street and Steilacoom-DuPont Road;
- construct a connector road between Gravelly Lake Drive and Thorne Lane to improve local access;
- build bicycle and pedestrian facilities along the corridor.

\* \$1.8 million would be needed on average per biennium to maintain and operate the features added to the system by this improvement